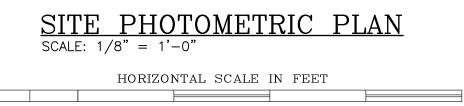


	LIGHTING FIXTURE SCHEDULE												
TYPE	MANUFACTURER & MODEL NO.	DESCRIPTION	LAMPS	WATTS	LUMENS	VOLTS	REMARKS						
А	JUNO JSF-5IN07LM-30K-90CRI-MVO LTZT-WH	5" RECESSED	LED	10	700	120/ 277	0-10V DIMMING, MOUNT TO UNDERSIDE OF CANOPY, PROVIDE MOTION CONTROL UNDER NORTH CANOPY						
В	COOPER LIGHTING 9002-W1-RW-LED3090-W-BK	EXTERIOR WALL SCONCE	LED	10	726	120/ 277	BUILDING MOUNTED FIXTURE REFER TO MOUNTING HEIGHT ON PLAN						
B1	COOPER LIGHTING 9003-W1-RW-LED3090-W-BK	EXTERIOR WALL SCONCE	LED	20	1358	120/ 277	BUILDING MOUNTED FIXTURE REFER TO MOUNTING HEIGHT ON PLAN						
SA	LITHONIA DSXO-LED-P1-30K-BLC-MVOLT -SPA	POLE LIGHT	LED	38	3586	120/ 277	PROVIDE 12' POLE LITHONIA# SSS-10'-4C-DM19AS-DBLXD, ON 2' BASE. MOUNTING HEIGHT OF 14' AFG.						
SA1	LITHONIA DSXO-LED-P1-30K-T3S-MVOLT -SPA-HS	POLE LIGHT	LED	38	3586	120/ 277	PROVIDE 12' POLE LITHONIA# SSS-10'-4C-DM19AS-DBLXD, ON 2' BASE. MOUNTING HEIGHT OF 14' AFG.						
SB	COOPER LIGHTING BRT6-A1-730-U-T3-30-BK	BOLLARD	LED	5.4	489	120/ 277							
WP	LITHONIA WDGE2-LED-P1-30K-80CRI- VW-MVOLT-SMR-NLTAIR2 PIR	WALL PACK	LED	10	1122	120/ 277	WALL PACK TO BE MOUNTED AT 8" AFG. WALL PACK TO DIM TO 0% WHEN UNOCCUPIED, 50% WHEN MOTION IS DETECTED						



LIGHTING ISOLINES LEGEND					
COLOR	FOOTCANDLES				
RED	1.0				
BLUE	0.5				
GREEN	0.1				

	LIGHTING LEVE	LS TABLE		
Description	Symbol	Avg	Max	Min
PARKING LOT	+	1.4 fc	6.6 fc	0.1 fc

**PERMIT SET** 9/30/21

DATE: 09.30.2021 DRAWN BY: CDJ





Weight (max):

The modern styling of the D-Series is striking its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 400W metal halide with typical energy savings of 70% and expected service life of over 100,000 hours.

DSX0 LED							
Series	LEDs	Color temperature	Distribution		Voltage	Mounting	
DSX0 LED	P1 P5 P2 P6 P3 P7 P4  Rotated optics P10 <sup>2</sup> P12 <sup>2</sup> P11 <sup>2</sup> P13 <sup>1,2</sup>	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short (Automotive) T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T3S Type III short T3M Type III medium T4M Type IV medium T5VS Type IV very short 3  T5S Type V short 3  T5M Type V wide 3  T5W Type V och and the short of the short o		MVOLT (120V-277V) XVOLT (277V-480V) 1206 2086 2406 2776 3476 4806	SPA SC RPA RC WBA W SPUMBA SC RPUMBA RC Shipped separately KMA8 DDBXD U M	quare pole mounting ound pole mounting <sup>10</sup> /all bracket <sup>3</sup> quare pole universal mounting adaptor <sup>11</sup> ound pole universal mounting adaptor <sup>11</sup> / / last arm mounting bracket adaptor opecify finish) <sup>12</sup>

	111 113	ic v very short		100	"		ify finish) 12	g bracket adaptor
Control o	otions				Other options		Finish (requ	ired)
Shipped NLTAIR2 PIRHN PER PER5 PER7 DMG	installed nLight AIR generation 2 enabled <sup>13,14</sup> Network, high/low motion/ambient sensor <sup>15</sup> NEMA twist-lock receptacle only (control ordered separate) <sup>16</sup> Five-pin receptacle only (control ordered separate) <sup>16,17</sup> Seven-pin receptacle only (leads exit fixture) (control ordered separate) <sup>16,17</sup> 0-10V dimming extend out back of housing for external control (control ordered separate) <sup>18</sup>	PIR PIRH PIR1FC3V PIRH1FC3V FAO	High/low, motion/ambient sensor, 8–15' mc height, ambient sensor enabled at 5fc <sup>19,20</sup> High/low, motion/ambient sensor, 15–30' m height, ambient sensor enabled at 5fc <sup>19,20</sup> High/low, motion/ambient sensor, 8–15' mc height, ambient sensor enabled at 1fc <sup>19,20</sup> High/low, motion/ambient sensor, 15–30' m height, ambient sensor enabled at 1fc <sup>19,20</sup> Field adjustable output <sup>21</sup>	mounting counting	DF Double fuse L90 Left rotated R90 Right rotate DDL Diffused dru HA 50°C ambie	e shield <sup>22</sup> : (120, 277, 347V) <sup>6</sup> e (208, 240, 480V) <sup>6</sup> d optics <sup>2</sup> ed optics <sup>2</sup> rop lens <sup>22</sup> ent operations <sup>1</sup> ca(n) Act Compliant tely <sup>23</sup>	DDBXD DBLXD DNAXD DWHXD DDBTXD DBLBXD DNATXD DWHGXD	Dark bronze Black Natural aluminum White Textured dark bronze Textured black Textured natural aluminum Textured white

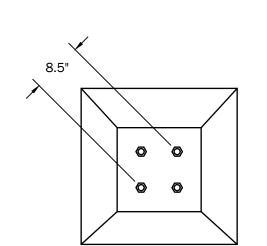
LITHONIA LIGHTING
COMMERCIAL OUTDOOR

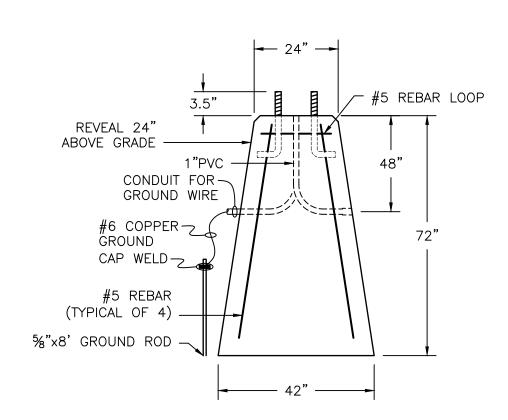
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DSX0-LED Rev. 07/19/21 Page 1 of 8

Weight

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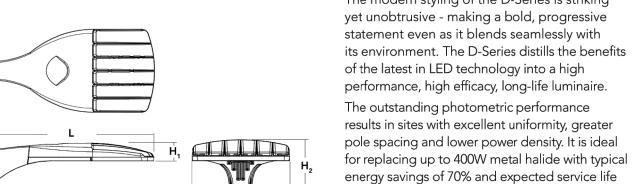


# TAPERED LIGHT POLE BASE DETAIL NOT TO SCALE 278 MAIN STREET



Catalog Number
Notes
Type SA1
Hit the Tab key or mouse over the page to see all interactive elements.
Introduction
The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive

of over 100,000 hours.



Series	LEDs	Color temperature	Distribution		Voltage	Mounting	
DSX0 LED	Forward optics	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short (Aut T2S Type II short T2M Type II short T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw n T5VS Type V very short	T5M Type V medium <sup>3</sup> T5W Type V wide <sup>3</sup> BLC Backlight control <sup>4</sup> LCCO Left corner cutoff <sup>4</sup> RCCO Right corner cutoff <sup>4</sup>	MVOLT (120V-277V) 5/6 XVOLT (277V-480V) 7/2 1206 2086 2406 2776 3476 4806	RPA Squ RPA Rot WBA Wa SPUMBA Squ RPUMBA Rot Shipped separately KMA8 DDBXD U Ma	uare pole mounting und pole mounting <sup>10</sup> Ill bracket <sup>3</sup> uare pole universal mounting adapt und pole universal mounting adapt st arm mounting bracket adaptor ectify finish) <sup>12</sup>
PIRHN PER PER5	stalled  nLight AIR generation 2 en. Network, high/low motion/ NEMA twist-lock receptacke Five-pin receptacle only (co Seven-pin receptacle only (separate)	'ambient sensor <sup>15</sup> e only (control ordered sepa ontrol ordered separate) <sup>16,17</sup>	ordered PIRH1FC	height, ambient sensor enabled at 1fc1	99.20		DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bron DBLBXD Textured black DNATXD Textured natural aluminum

# LITHONIA LIGHTING.

# 8" POLE BASE BOLT CIRCLE - POWER CONDUIT 2" BOLT PROJ. - LIGHT POLE BASE ANCHOR BOLT - (4 REQ'D) ¾"øx21" LONG. - CONDUIT SIZE PER SCHEDULE NOTE: POLE TEMPLATES FROM MANUFACTURER SHALL BE USED TO SET ANCHOR (6) #4 VERT. W/ #5 TIES 12" O.C. CONC. 3500 PSI REBAR 60 KSI BOLLARD CONCRETE BASE DETAIL

# JUNO SLIMFORM™ LED **SURFACE MOUNT DOWNLIGHTS**

FOR J-BOX INSTALLATION 5", 7", 11", 13" ROUND

**JSF SERIES** 

**PRODUCT DESCRIPTION** 

**JUNO**®

Fixture Type: A

Contact/Phone:

Location:

Sleek, ultra-low profile energy efficient LED surface mount downlights in multiple sizes from 5" to 13" • Provides economical installation by mounting directly over standard and fire-rated junction boxes • Optional finish trims and shrouds available for custom, designer look similar to standard recessed downlights • Provides general illumination in residential and commercial applications including multi-family and hospitality • Ideal for use in corridors, living spaces, closets, hallways, pantries, stairways, outdoor covered areas without Emergency Option and much more. PRODUCT SPECIFICATIONS

Construction Shallow, less than 1", solid ring with white finish

• Non conductive fixture for shower light applications • Optional, field installable finish trims available for 5" and 7" versions to change the exterior finish of fixture • Optional, field installable decorative baffle and cone shrouds for 5" and 7" versions provide the aesthetic and source shielding similar to the experience of a fully recessed downlight. **Optics** Light quide technology combined with diffusing lens conceals the LEDs from direct view and provides uniform lens luminance. LED Light Engine LEDs mounted directly to heatsink designed to provide superior thermal management and ensure long life • 2700K, 3000K, 3500K or 4000K LED color temperature • LEDs binned for 4-step MacAdam ellipse color consistency • 90 CRI minimum.

**LED Driver** Choice of dedicated 120 volt (120) driver or universal voltage (MVOLT) driver that accommodates input voltages from 120-277 volts AC at 50/60Hz • Power factor > 0.9 at 120V input •120 volt driver is dimmable with the use of most incandescent, magnetic low voltage and electronic low voltage wall box dimmers • Universal voltage driver is dimmable with the use of most 0-10V wall box dimmers • External driver is only available on 5" and 7" models • For a list of compatible dimmers, see <u>JÚNOSLIMFORM-DIM</u>.

Emergency Battery Option Available on fixture sizes 11" and larger
• Battery factory assembled to fixture with integral test switch (EL option) Drives LEDs for 90 minutes to meet Life Safety Code (NFPA-LSC), National Electrical Code (NEC), and UL requirements • Emergency battery not available in California due to Title 20 restrictions • EBX option provides back box without battery for consistent look when used in same space as fixtures with EL emergency option • Damp location only with emergency

Labels ENERGY STAR® certified • Certified to the high efficacy requirements of California T24 JA8-2016 • CSA listed for US and Canada • Suitable for wet locations (covered ceilings) • Damp location only with **Testing** All reports are based on published industry procedures; actual

**Life** Rated for 50,000 hours at >70% lumen maintenance.

performance may differ as a result of the end-user environment and applications. All values are design or typical values, measured under laboratory conditions at 25 °C. Warranty 5-year limited warranty. Complete warranty terms located at:

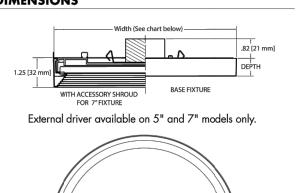
www.acuitybrands.com/support/warranty/terms-and-conditions Specifications subject to change without notice.

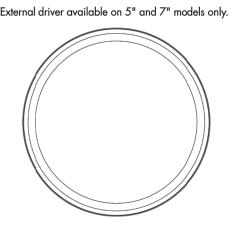
INSTALLATION

Junction Box Mounting Fixture provided with leads for direct wire connection in j-box • Installs directly to industry standard junction boxes Compatible boxes include 4" metal or plastic octagonal standard and fire-rated junction boxes (3 1/2" junction box screw-hole spacing required for installation) • Minimum 2 1/8" deep junction box required for 5" and 7" fixtures (no depth requirement for 11" and larger fixtures) • Quick mount bracket provides fast installation of fully assembled fixture to junction box • Suitable for ceiling mount • Suitable for use within closet storage spaces when installed per NEC requirements.

Junction box sizes vary - Verify compatibility with fixture prior to

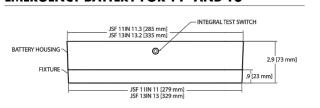
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	Width	Depth
JSF 5IN	5.25 (13.34)	0.75 (1.91)
JSF 7IN	7.77 (19.74)	0.75 (1.91)
JSF 11IN	11.08 (28.14)	0.9 (2.29)
JSF 13IN	13.05 (33.15)	0.9 (2.29)

# EMERGENCY BATTERY FOR 11" AND 13"



120V 120V-277V

110MA 50MA

50/60Hz

PERFORMANCE DATA

Input Current

ORDERING INFORMATION Example: JSF 5IN 07LM 27K 90CRI 120 FRPC WH 90CRI 90+CRI 120 FRPC Dedicated 120V, 5IN 07LM 5", 700 Lumens 27K 2700K L<sup>3†</sup> Battery Back-up Surface Mount 7IN 10LM 7", 1000 Lumens 30K 3000K Phase Dimmnig EBX Empty Back Box 11IN 13LM 11", 1300 Lumens 35K 3500K MVOLT ZT Universal Voltage 120V-277V, 0-10V 13IN 18LM 13", 1800 Lumens 40K 4000K †: EL Battery Back-up option is not Energy Star certified

180MA 80MA 240MA 110MA

27K, 30K, 35K, 40K

120V 120V-277V

27K, 30K, 35K, 40K

50/60Hz

120V 120V-277V

27K, 30K, 35K, 40K

120V 120V-277V

13W 13W 150MA 60MA

50/60Hz

**ACCESSORIES** TRIM – Optional, field installable finish trim rings available to change the exterior finish of fixture.

Example: JSFTRIM 5IN BL JSFTRIM SlimForm 5IN 5 inches BL Black Accessory- Trim BZ Bronze 7IN 7 inches SN Satin Nickel

**SHROUD** – Optional, field installable decorative baffle and cone shrouds provides the aesthetic and source shielding similar to the experience of a fully recessed downlight.

Example: JSFSHROUD 5IN DB WWH

Example. Jo	I SI IKOOD SIIN DI	7 * * * *	11				
Series		Size		Shro	ud Style	Finish	
JSFSHROUD	SlimForm Accessory Shroud - Round	7IN	7 inches	DB	Downlight Baffle	WWH	White trim, white shroud



**BAFFLE SHROUD** 

1 Emergency battery available with 11IN and 13IN only. Emergency battery is only available with MVOLT ZT. 3 Emergency battery option not available in California due to Title 20 restrictions.

JUNO SLIMFORM™ LED

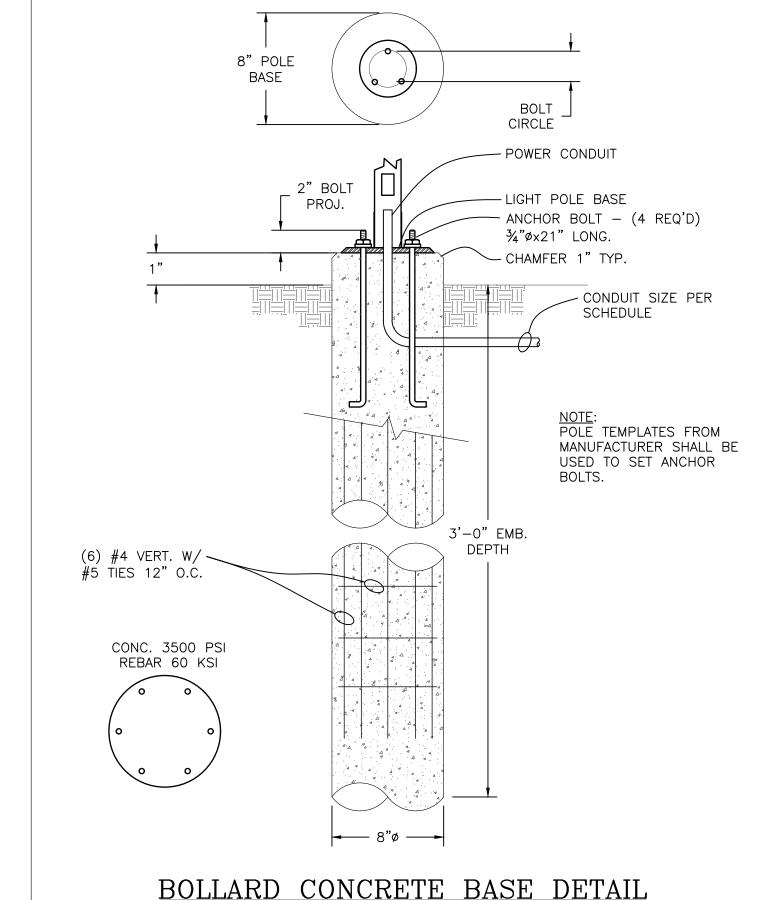
FOR J-BOX INSTALLATION

5", 7", 11", 13" ROUND

**JSF SERIES** 

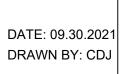
SURFACE MOUNT DOWNLIGHTS

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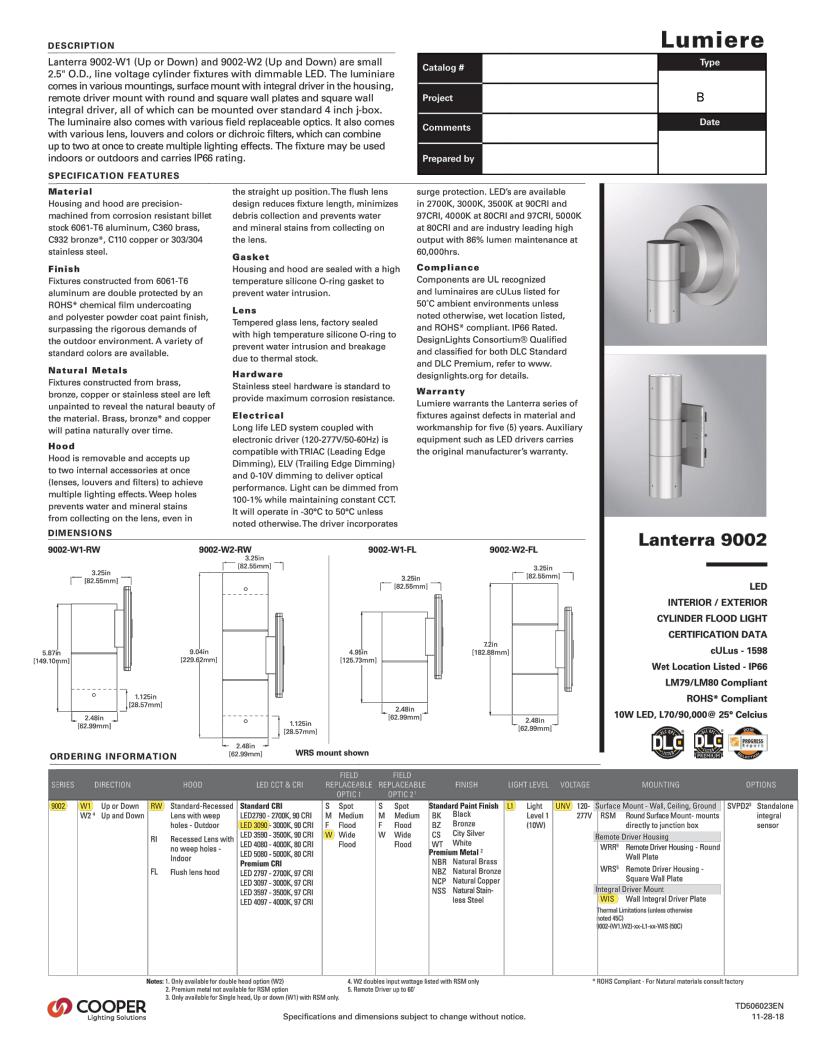


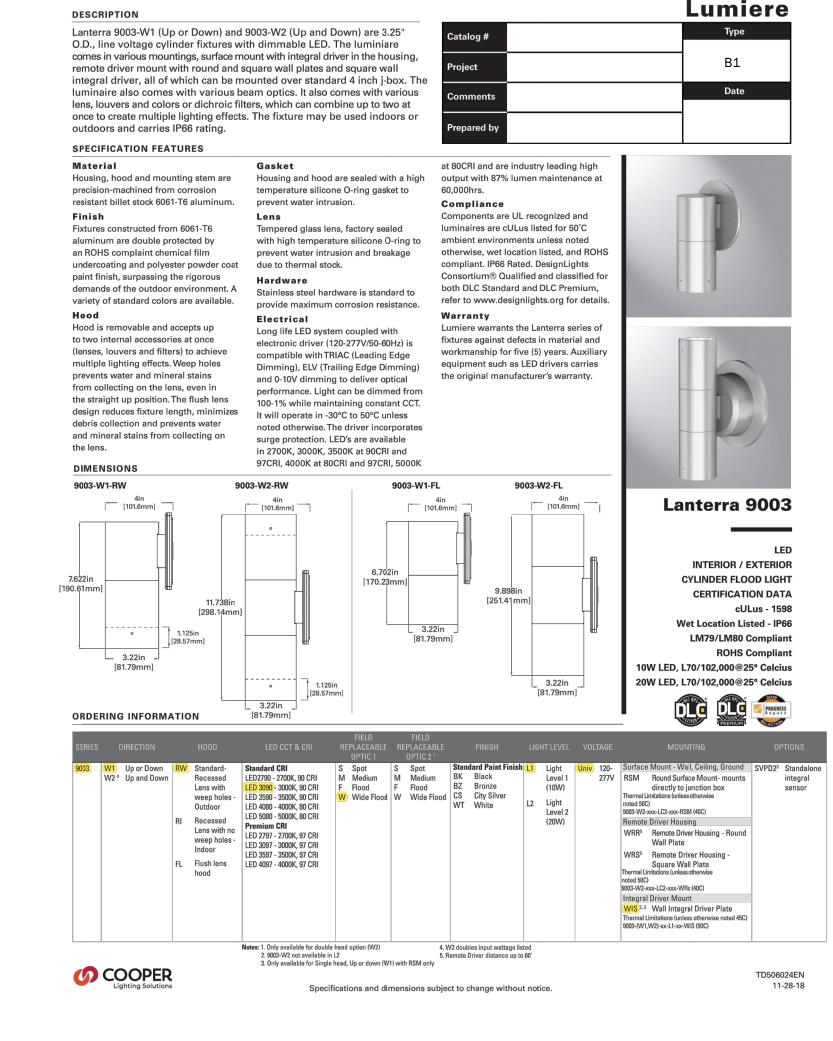
PERMIT SET





9/30/21









**Specifications** 

Depth (D1):

Depth (D2):

(without options)

Height:

Width:

WDGE2 LED
Architectural Wall Sconce
Precision Refractive Optic

Type
WI

Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE2 with industry leading precision refractive optics provides great uniform distribution and optical control. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

WDGE2 LED

Rev. 08/31/21

# WDGE LED Family Overview

11.5"

Luminaire			Callett 20%		Approximate Lumens (4000K, 80CRI)						
Lummaire	Optics	Standard EM, 0°C	Cold EM, -20°C	Sensor	P0	P1	P2	P3	P4	P5	P6
WDGE1 LED	Visual Comfort	4W			750	1,200	2,000				
WDGE2 LED	Visual Comfort	10W	18W	Standalone / nLight		1,200	2,000	3,000	4,500	6,000	
WDGE2 LED	Precision Refractive	10W	18W	Standalone / nLight	700	1,200	2,000	3,200	4,200		
WDGE3 LED	Precision Refractive	15W	18W	Standalone / nLight		7,500	8,500	10,000	12,000		
WDGE4 LED	Precision Refractive			Standalone / nLight		12,000	16,000	18,000	20,000	22,000	25,000

Ordering	Inform	nation		EXA	MPLE: V	VDGE2 LED P3 40K 80	OCRI VF MVOLT SRM DDBXI
Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting	
WDGE2 LED	P0 <sup>1</sup> P1 <sup>2</sup> P2 <sup>2</sup>	27K 2700K 30K 3000K 40K 4000K	70CRI <sup>4</sup> 80CRI LW <sup>3</sup> Limited Wavelength	T1S Type   Short T2M Type   I Medium T3M Type   II Medium	MVOLT 347 <sup>5</sup> 480 <sup>5</sup>	Shipped included  SRM Surface mounting bracket  ICW Indirect Canopy/Ceiling Washer bracket (dry/	Shipped separately AWS 3/8inch Architectural wall spacer PBBW Surface-mounted back box (top, left, right conduit entry). Use when there

	P2 <sup>2</sup> P3 <sup>2</sup> P4 <sup>2</sup>	<b>40K</b> 4000K <b>50K</b> 5000K <b>AMB</b> <sup>3</sup> Amber	LW <sup>3</sup> Limited Wavelength	T4M	Type III Medium Type IV Medium Forward Throw Medium	480°	ICW	Indirect Canopy/Ceiling Washer bracket (dry/ damp locations only) <sup>6</sup>	PBBV	right cor	-mounted back box (top, left, nduit entry). Use when there nction box available.
Options										Finish	
E10WH	Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 5°C min)  Emergency battery backup, Certified in CA Title 20 MAEDBS (18W, -20°C min)  Photocell, Button Type  0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)			ndalone S	dalone Sensors/Controls  Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external dusk to dawn switching.  Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for use on				DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White		
E20WC				ı							
PE <sup>7</sup>				switched circuits with external dusk to dawn switching		DWHXD					
DMG <sup>8</sup>				FC3V	Bi-level (100/35%) mot programmed for dusk to		'mounting	heights with photocell pre-	DDBTXD	DSSXD DDBTXD	Sandstone Textured dark bronze
BCE	Bottom conduit entry f points.	for back box (PBBW). Tot	al of 4 entry PIRH	11FC3V	Bi-level (100/35%) mot programmed for dusk to		0'mountin	g heights with photocell pre-		DBLBXD DNATXD	Textured black Textured natural aluminum
	Networked Sensors/Controls				DWHGXD	Textured white					
				IR2 PIR	3			ensor for 8-15' mounting heights. ensor for 15-30' mounting heights.	.	DSSTXD	Textured sandstone

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See page 4 for out of box functionality

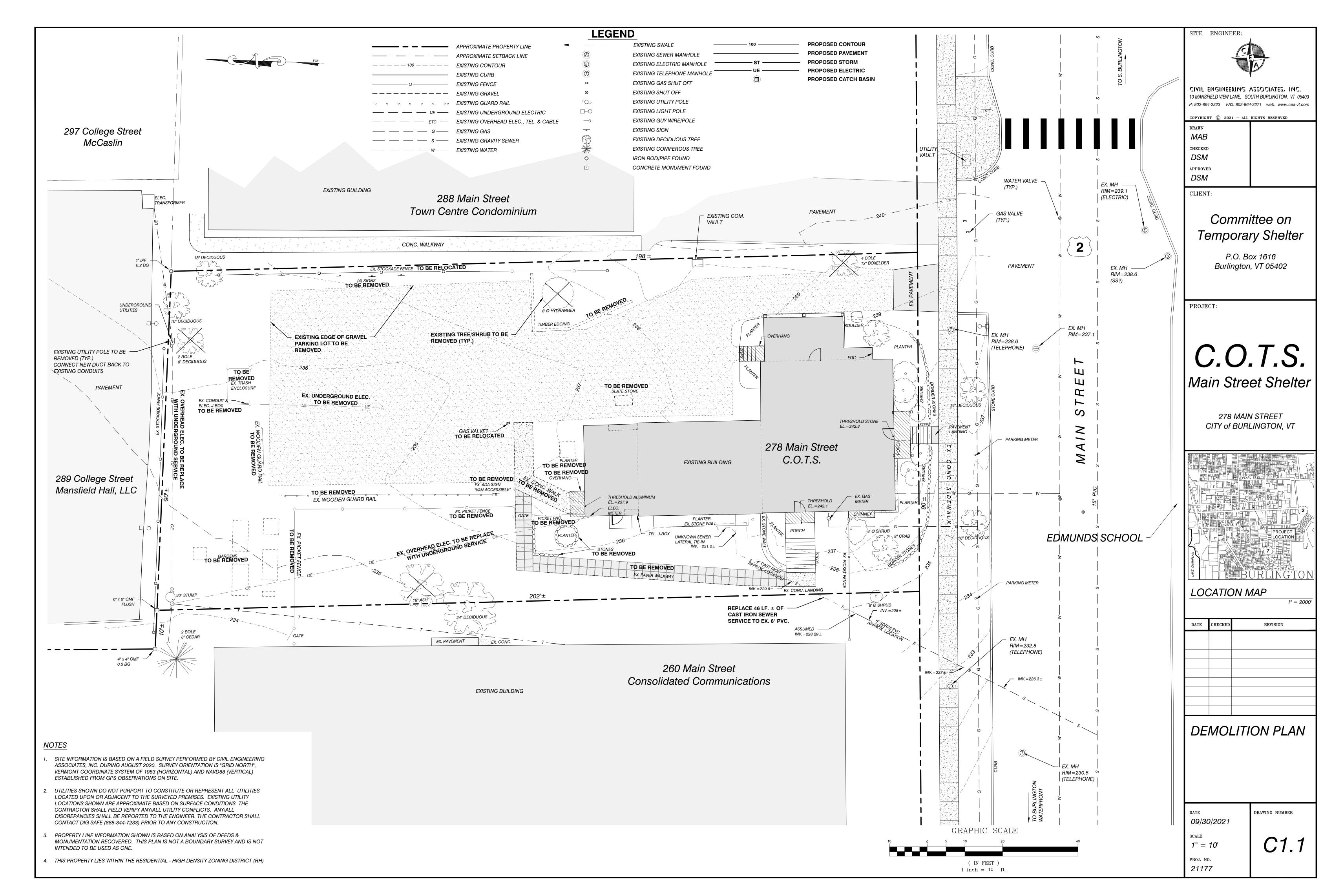


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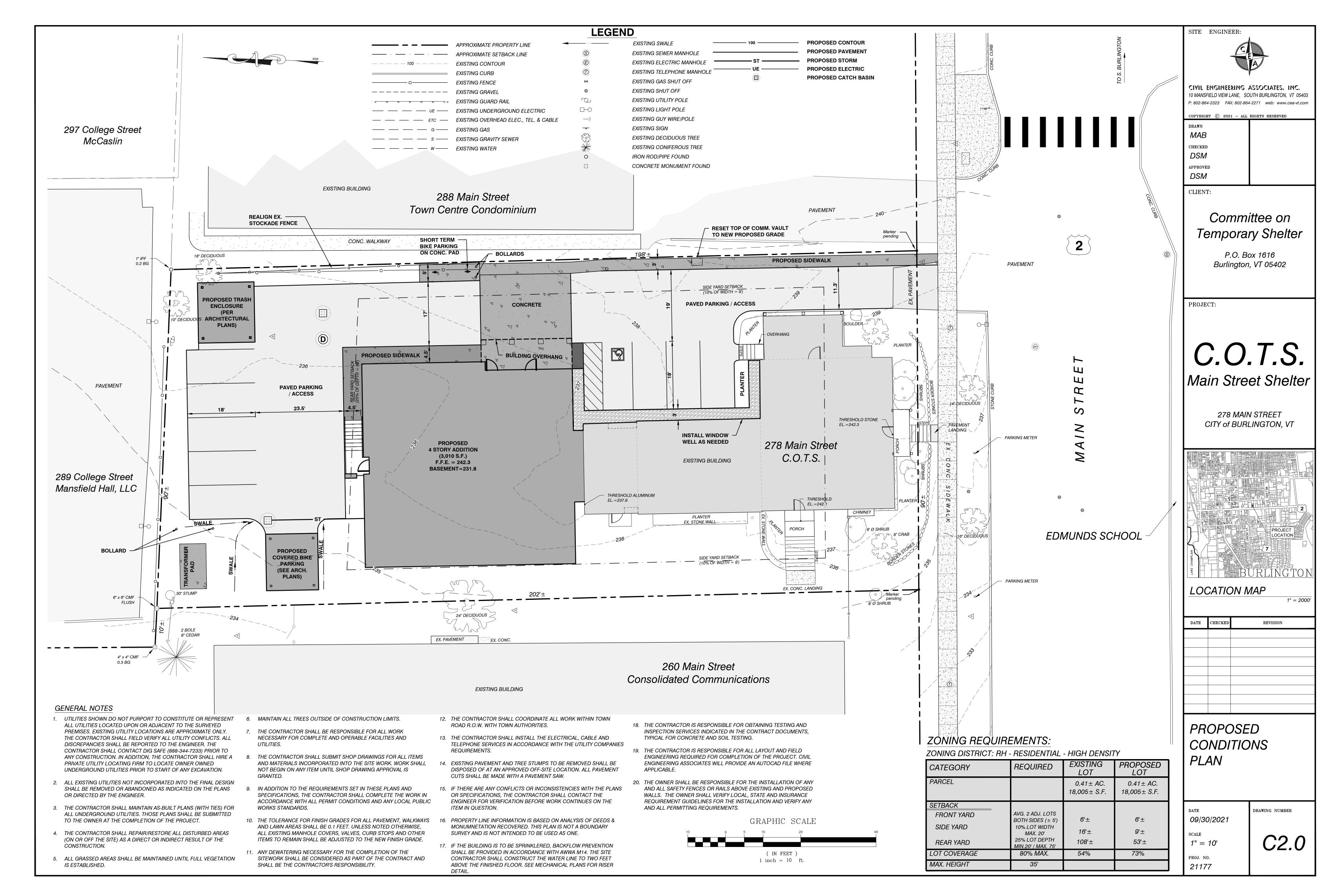
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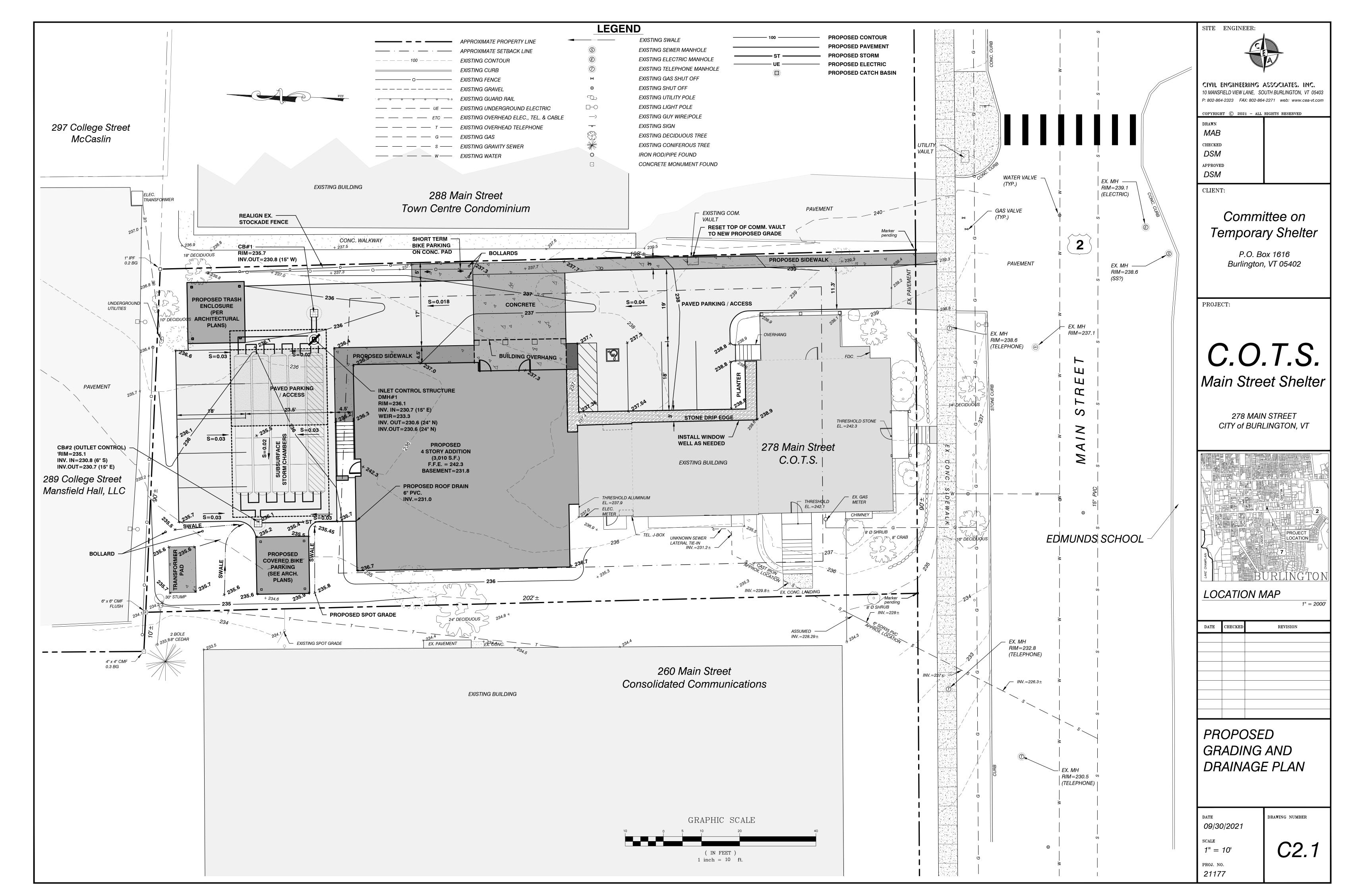
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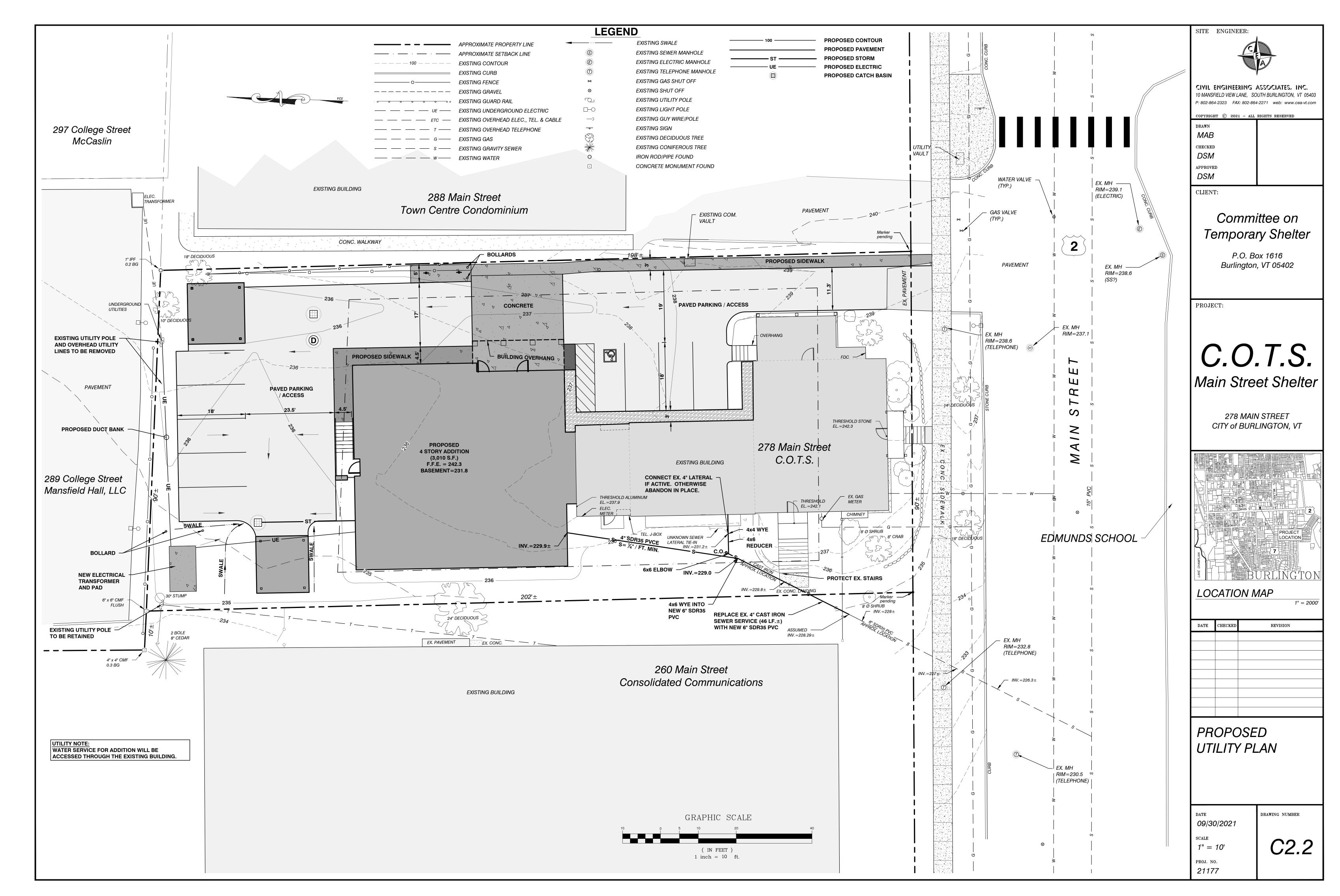
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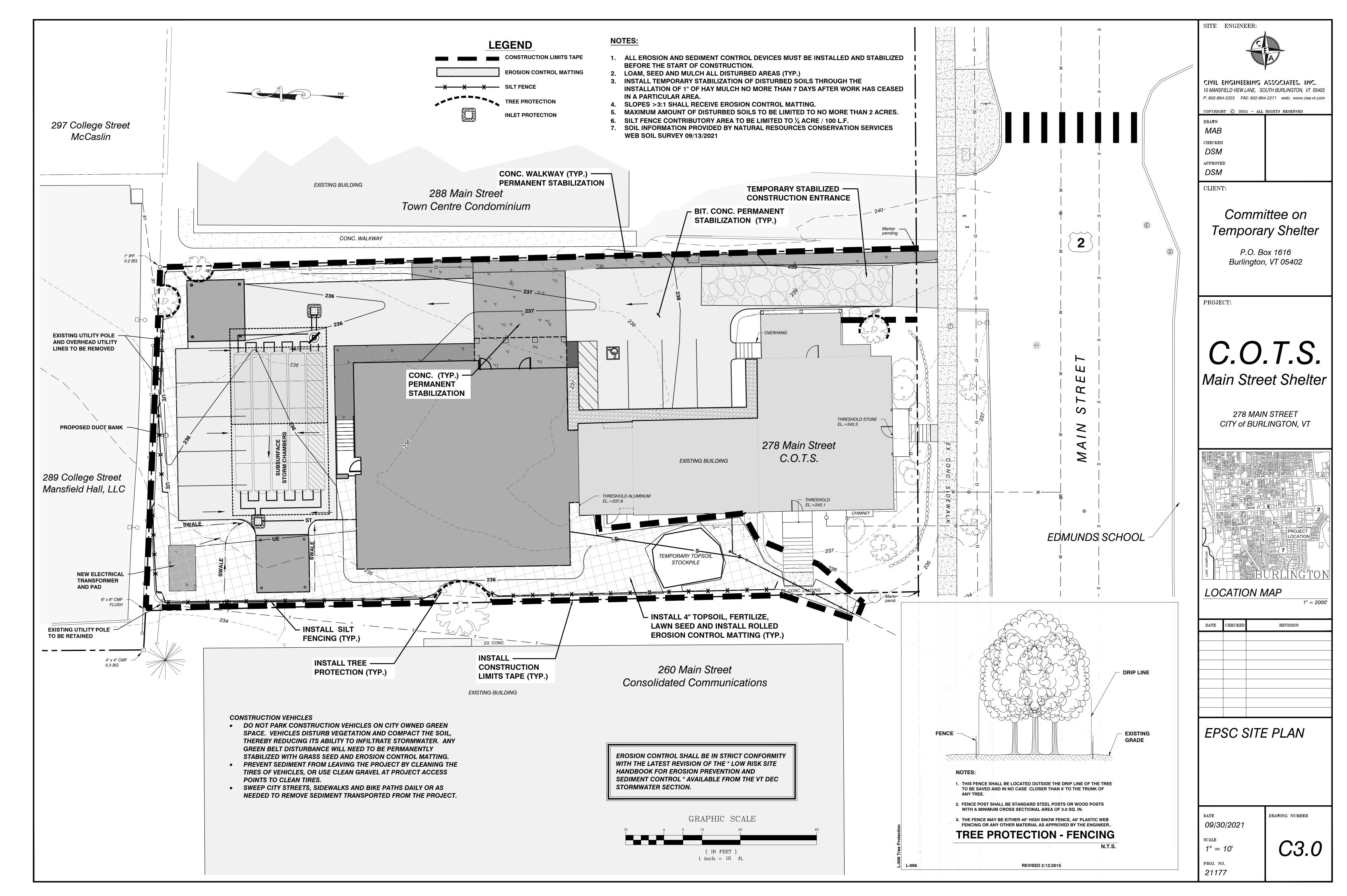
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Coverage under the State Construction General Permit 3-9020 is required for any construction activity that disturbs 1 or more acres of land, or is part of a larger development plan that will disturb

This project has been deemed to qualify as a Low Risk Site which is subject to the erosion prevention and sediment control (EPSC) standards set for in the State of Vermont's ow Risk Site Handbook for Erosion Prevention and Sediment Control

The following narrative and implementation requirements represent the minimum standard for which this site is required to be maintained as regulated by the State of Vermont.

Any best management practices (BMP's) depicted on the project's EPSC Site plan which go beyond the Handbook requirements are considered to be integral to the management of the site and epresent components of the municipal EPSC approval for the project which shall be implemented.

The EPSC plan depicts one snap shot in time of the site. All construction sites are fluid in their day to day exposures and risks as it relates to minimizing sediment loss from the site. It is the esponsibility of the Contractor to implement the necessary BMP's to comply with the Low Risk Handbook standards outlined on this sheet based on the interim site disturbance conditions which may or may not be shown on the EPSC Site Plan.

Specific BMP's which are critical to allowing the project to be considered a Low Risk site include the Purpose: items checked below:

Limit the amount of disturbed earth to two acres or less at any one time. There shall be a maximum of 7 consecutive days of disturbed earth exposure in any location before temporary or final stabilization is implemented

# Demarcate Limits of Disturbance

Delineating the site will help to: limit the area of disturbance to only what is necessary for construction, prevent unauthorized disturbance, preserve existing vegetation, and limit erosion potential on the site.

# You must physically mark the limits of construction activity using one of the methods described

Before initiating any earth disturbing activities, install a perimeter fence, orange barrier tape, or flagging on stakes or trees to physically demarcate the approved limits of earth disturbance.

# . Pollution Preventio

# prevention and clean up plan are required to mitigate these risks.

Design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented and maintained in accordance with the following requirements.

# How to comply:

. Minimize the exposure of the following to precipitation and to stormwater: building materials, Silt Fence Installation building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site.

Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material 

• Drive stakes in against downhill side of trench or product poses little risk of stormwater contamination (such as final products and materials

• Drive stakes until 16 inches of fabric is in trench

# . Limit Concurrent Earth Disturbance

Limit the amount of soil exposed at one time to reduce the potential erosion on the construction

The maximum area of concurrent earth disturbance is specified on the site's written authorization to discharge. Earth disturbance at any one time cannot exceed the maximum concurrent disturbance identified in the authorization. Areas that are at final stabilization ornthat have been temporarily stabilized in accordance with Section 4 of this handbook, are not counted toward the 8. Storm Inlet Protection maximum concurrent disturbance area.

Plan ahead and phase the construction activities to ensure that no more than the permitted naximum concurrent acreage is disturbed and unstabilized at one time. Be sure to properly stabilize exposed soil using one of the methods introduced in Section 4 of this handbook before beginning work in a new section of the site.

# Site Stabilization

Seeding and mulching, applying erosion control matting, and hydroseeding are all methods to emporarily stabilize exposed soil and prevent soil erosion prior to vegetative growth. Mulches and Shall provide for storage and removal of sediment and be sized appropriately for the drainage matting protect the soil surface while grass is establishing. Areas of earth disturbance may also be area, while allowing stormwater to filter through. These may be used if installed and maintained in stabilized with stone, such as rip-rap or gravel, or other impervious surfaces such as pavement and accordance with the manufacturer's specifications.

# Requirements for Temporary Stabilization:

All areas of earth disturbance must have temporary or final stabilization within 14 days of initial disturbance, as stated in the project authorization. After this time, disturbed areas must be emporarily stabilized or permanently stabilized in advance of any runoff producing event. A runoff creating ground contact with filter fabric. Alternatively, fabric may be buried below ground.

# producing event is an event that produces runoff from the construction site.

The following exception applies: no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation, utility trenches), provided any dewatering, if necessary, is conducted in accordance with Part 13.

As required by the authorization, temporary stabilization for areas of earth disturbance shall be completed utilizing one or more of the methods below:

# Straw Mulch

Mulching Rates April 16 - Oct. 14 -- Straw: 1 inch deep (1-2 bales/1,000 s.f.) Oct. 15 - April 15 -- Straw: 2 inch deep (2-4 bales/1,000 s.f.)

# seed may also be incorporated

Nood Chip Mulch or Stump Grindings Cover entire area with 2-7 inches or more of wood chip mulch or stump grindings.

As per manufacturer's instructions. Must include mulch component. Not acceptable stabilization for vinter construction period.

# Requirements for Dust Control

Construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing during dry periods where off-site damage may occur if dust is not controlled shall Stone check dams reduce erosion in drainage channels by slowing down the stormwater flow. be sprayed with water to prevent dust mobilization. Chemical applications, including the use of chloride, shall not be applied without written approval from the VT DEC.

# Requirements for Final Stabilization:

All areas of disturbance must have permanent stabilization within 48 hours of reaching final grade. Bring the site or sections of the site to final grade as soon as possible after construction is reduce the total disturbed area. Prepare bare soil for seeding by grading the top 4 to 6 inches of soil and removing any large rocks or debris, and apply seed per suppliers specifications.

# Stabilized Construction Access

A stabilized construction access helps remove mud and sediment from vehicles and equipment to Width: Dams should span the width of the channel and extend up the sides of the banks prevent tracking onto streets.

If there will be any vehicle or equipment traffic off of the construction site, you must install a stabilized construction access at the start of construction.

# How to install:

Rock Size: Use a mix of 1 to 4 inch stone Depth: 8 inches minimum

occurs on a non-business day.

Width: 12 feet minimum, flared at road for vehicle turning Length: 40 feet minimum (or length of driveway for residential projects, if shorter) Geotextile: Place filter cloth under entire stone bed

## Redress with clean stone or scarify to open voids as required to keep sediment from tracking onto mobilized during high flows. he street.

Where sediment has been tracked-out from your site onto paved roads, sidewalks, or other paved areas outside of your site, remove the deposited sediment by the end of the same business day in which the track-out occurs or by the end of the next business day if track-out

Remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other solely to slope angle; however, similarly effective means of sediment removal. You are prohibited from hosing or sweeping tracked out sediment into any stormwate conveyance, storm drain inlet, or water of the state.

# 6. Divert Upland Runoff

Diversion berms intercept stormwater runoff contributing from above the construction site and direct it around the disturbed area. This prevents offsite runoff from entering the construction site. Control Product: thus reducing the potential for erosion and reducing the drainage area contributing to the site.

# If stormwater runoff contributes to the construction site from upslope areas and the site meets the

following two conditions, you are required to first install a diversion berm and stabilized swale before disturbing any additional soil. 1. One or more acres of soil will be disturbed at any one time.

# Diversion Berm installation:

1. Construct berm to the minimum specification above.

2. Average slope of the disturbed area is 20% or steeper.\*

- 2. Compact the berm with a shovel or earth-moving equipment. 3. Seed and mulch berm or cover with erosion control matting immediately after installation. 4. Stabilize the flow channel with seed and mulch or erosion control matting. Line the channel with 4 inch stone if the channel slope is greater than 20%.
- 5. Ensure the berm drains to an outlet stabilized with ripra p. Ensure that there is no erosion at the outlet 6. The diversion berm shall remain in place until the disturbed areas are completely

# 7. Install Perimeter Controls

stabilized.

Silt Fence and Erosion Control Berms intercept runoff and allow suspended sediment to settle or filter out. Filter Socks and Straw Wattles also filter construction runoff and are acceptable for use in specific situations. Silt Fence, Erosion Control Berms, Filter Socks and Straw Wattles are all acceptable perimeter controls based on site specific conditions. Permittee(s) must ensure the right practice is selected for erosion prevention and sediment control.

Perimeter controls must be installed: On the downhill side of the construction activities Between any ditch, swale, storm drain, or surface water and the disturbed soil

# reached final stabilization How to Comply:

Select and install a perimeter control from the following options: Silt Fence, Erosion Control Berms, Filter Socks, or Straw Wattles.

- Place perimeter controls on the downhill side of disturbed soil. If space is available, place perimeter control 10 ft from the bottom of the slope, otherwise place along the contour at
- the bottom of the slope Ensure the perimeter control catches all runoff from distrubed soil. Many construction sites require storage of chemicals and materials that have detrimental effects if

  • Maximum drainage area is 1/4 acre for 100 feet of silt fence and erosion control berm. released into our waterways. A storage plan for these potential pollution sources as well as a spill • Install perimeter controls across the slope (not up and down slope) • Install multiplerows of perimeter control on long slopes to intercept flow.

 Do not install perimeter controls across ditches, channels, or streams. Maximum slope length (in feet) above a filter sock or straw wattle

A temporary barrier of geotextile fabric installed on the contours across a project site to intercept sediment laden runoff from small drainage areas of disturbed soil.

- Dig a trench 6 inches deep across the slope Unroll silt fence along the trench
- Ensure stakes are on the downhill side of the fence Join fencing by rolling the end stakes together
- Push fabric into trench: spread along bottom
- Fill trench with soil and pack down
- tree roots do not allow for trenching. (A secondary perimeter control can be effective in these disturbed soil must be stabilized prior to any runoff producing event. locations as well.)

in ground and there are no gaps. Replace any silt fence that is torn, ripped, or otherwise damaged

Existing or new storm inlets on construction sites constitute a site perimeter and must be protected from sediment laden runoff. The practices below allow stormwater to settle and filter through the 13. Dewatering Activities practice and not bypass the in let entirely.

# Stormwater inlets shall be 4 inches above grade or an acceptable inlet control/protection should be Requirements

Proprietary Inlet Protection

Stone and Block Inlet Protection: Concrete blocks placed around an inlet with a circle of filtering stone sloped against the blocks. Filter Fabric and Stone Inlet Protection: Vertical filter fabric installed around drop inlet with stone around fabric for stormwater filtering and

Temporary stabilization is not required if the work is occurring in a self-contained excavation (i.e. Some sites may benefit from the use of water bars on the construction site. When installed these may capture and redirect runoff to a stable low gradient location. Water bars limit the erosive velocity of water by diverting surface runoff at pre-designed intervals.

These can be constructed per the following detail, with side slopes no steeper than 4:1 where

vehicles cross with a minimum design height of 12 inches, measured from channel bottom to ridge

# Nater bars should have stable outlets, either natural or constructed. The spacing should follow

10. Slow Down Channelized Runo

# If there is a concentrated flow(e.g. in a ditch or channel) of stormwater on your site, then you are

required to install stone check dams. Hay bales and silt fence must not be used as check dams. Check Dam installation completed. This will reduce the need for additional sediment and erosion control measures and will Height: No greater than 2 feet. Center of dam should be 9 inches lower than the side elevation

Side slopes: 2:1 or flatter (see p.63 for slope calculation) Stone size: Use a mixture of 2 to 9 inch stone; the larger stone should act as armoring, while the smaller stone helps to filter the channelized runoff. The small stone should be placed primarily in The outlet of permanent controls that are used as temporary storage and sediment basins during the interior of the check dam and the large stone should be placed in an armoring layer on the

Spacing: Space the dams so that the bottom (toe) of the upstream dam is at the elevation of

the top (crest) of the downstream dam. This spacing is equal to the height of the check dam

# divided by the channel slope.

Correct all observed damage immediately after every ru naff event. Remove all sediment accumulated behind the check dams and dispose of in an upland location. If significant erosion is observed between check dams, the channel shall be stone lined.

Waterways or outlets with concentrated stormwater runoff shall be stabilized with riprap, proprietary stabilization product or permanent material. This additional stabilization is applicable in areas where the channel slope and velocity or soil type require additional stabilization. All outlets from concentrated stormwater flows will require a stabilized bed. Stone shall be sized so it is not

Surface covering designed to protect and stabilize an area prone to erosion where seeding and mulching may be inadequate, generally slopes 3:1 or greater. The erosion potential may be due a more gradual slope and poor soil structure can also require additional stabilization.

## Requirements for Temporary Stabilization: Use of one of the listed slope protection practices below on slopes 3:1 and greater or as needed on

flatter slopes based on soil type

Riprap: A layer of stone designed to protect and stabilize areas subject to erosion. Rolled Erosion

A preformed protective blanket of straw or other plant residue, formed into a mat, with a supporting mesh framework on one or both sides. This mesh cannot be made of a material with welded joints.

## Erosion Control Matting: Install per manufacturer's instructions.

12. Winter Construction Requirements: October 15 - April 15 'Winter construction' as discussed here, describes the period from October 15 through April 15. when erosion prevention and sediment control is significantly more difficult. There are specific requirements for sites that conduct earth disturbance during the defined Winter Construction

Rains in late fall, thaws throughout the winter, and spring melt and rains can produce significant flows over frozen and saturated ground, greatly increasing the potential for erosion. A construction site can be managed to anticipate these conditions to prevent erosion

Period and for sites where disturbed areas have not reached final stabilization by October 15.

# Requirements for Winter Shutdown:

Perimeter controls not labeled as biodegradable shall be removed once the drainage area has Implement Rolled Erosion Control Products (i.e. matting) over the areas of earth disturbance.

and thus minimize the risk to water quality during this time period.

For projects or areas of a site that will have completed earth disturbance activities prior to the winter construction period (October 15 through April 15), the following requirements must be

mulching shall be completed no later than September 15 to ensure adequate growth and cover before the start of the winter period.

1. For areas to be stabilized for the winter through the establishment of vegetation, seeding and

2. If seeding is not completed by September 15, additional non-vegetative protection must be used to stabilize the site for the winter period. Areas of disturbance not seeded and mulched by September 15 are required to temporarily stabilize by one of the following methods:

Apply a 2" mulch layer to areas of earth disturbance, equivalent to double the standard rate, Mulch should be tracked in open areas vulnerable to wind. Seeding with winter rye is recommended to allow for early germination during wet spring

# Requirements for Winter Construction

the following requirements apply: 1. Enlarged access points, stabilized to provide for snow stockpiling. 2. Snow shall be managed with adequate storage and control of meltwater, requiring cleared

If construction activities involving earth disturbance continue into the winter construction period,

snow to be stored down slope of all areas of disturbance and out of stormwater treatment 3. For areas of disturbance within 100 ft of a waterbody, the following must be installed across the slope, down gradient of the earth disturbance: a combination of one practice from group A placed in front of a practice from group B, or two group B practices, or a single row of Reinforced

Group A	Group B
Filter Socks	Silt Fence
Straw Wattles	Frosion Control Berms

4. Drainage structures must be kept open and free of snow and ice dams. 5. Silt fence and other practices requiring earth disturbance must be installed ahead of frozen

6. Mulch used for temporary stabilization must be applied at a minimum of 2 inches with an 80-90% cover. • Gravel can be used to create ground contact with filter fabric when bedrock, ledge, or nearby 7. To ensure cover of disturbed soil in advance of a precipitation or melt event, areas of

Stabilization is not required if the work is occurring in a self-contained excavation (i.e. no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation, utility trenches), provided Remove accumulated sediment before it is halfway up the fence. Ensure that silt fence is trenched any dewatering, if necessary, is conducted in accordance with Part 13.

> 8. Prior to stabilization, snow or ice must be removed to the extent practicable. 9. Use stone to stabilize areas such as the perimeter of buildings under construction or where construction vehicle traffic is anticipated. Stone paths should

# be sufficient width to accommodate vehicle or equipment traffic.

To minimize and prevent discharges of sediment as a result of dewatering activities.

## Stormwater and groundwater from dewatering activities shall be uncontaminated and shall be filtered or passed through a sediment trapping device, or both, and routed in a manner that does not result in visually turbid discharges to waters. Pump intake for dewatering must be at or near the surface of the ponding area to prevent disturbance of the settled material. Visually turbid water

must not be pumped directly to storm drains or other conveyance that leads to waters without

# implementing one or more of the practices described below.

Implement one or more of the following practices when dewatering: Implement sock filters or sediment filter bags on dewatering pump discharge hoses or pipes.

Route dewatering pump into silt fence enclosures or into staked hay bale enclosures lined with Route dewatering pump to vegetated area at least 50 feet from surface waters and at a slope no greater than 5%. Remove accumulated sediment after the water has dispersed or infiltrated and stabilize the area with seed and mulch as necessary. A sufficient area of vegetation greatly

# improves the efficacy of filtering/settling of turbid water discharged from a dewatering enclosure. 14. Concrete Washout

Concrete wash water often contains a slurry of heavy metals, can be caustic, and has a high pH.  $|\vec{\mathbf{L}}|$  E-002 As a result, concrete washwater is not a permitted discharge

# Concrete washwater and excess washout concrete should go in a lined washout. This washout

should be accessible to the cement truck and at least 50 feet away from stormwater inlets and Concrete Washout Installation

## If cement washout is going to occur on site, a lined concrete washout as shown below shall be used onsite. Care should be given to assure that the washout does not overtop during a storm event. Proprietary lined and contained concrete washout basins may also be utilized in accordance with manufacturer's specifications.

Concrete washout shall be pumped to a concrete truck as necessary, for disposal or reuse at a batch plant. Washout may also be allowed to evaporate/harden for disposal in accordance with all

# applicable local, state, and federal regulations.

15. Permanent Controls Permanent stormwater treatment practices are constructed to maintain water quality, preserve existing water table elevations, prevent downstream flooding, and are often required for a project under a Vermont operational stormwater discharge permit applicable to the construction or redevelopment of impervious surfaces.\*

Permanent Stormwater Treatment Practices (STPs) include infiltration and filtering practices as well as detention ponds and treatment wetlands. It is critical that infiltration practices do not receive runoff until the site area has reached final stabilization.

construction constitutes a potential discharge point and therefore must be managed to minimize and prevent sediment laden stormwater discharges. These practices will often need to be reshaped

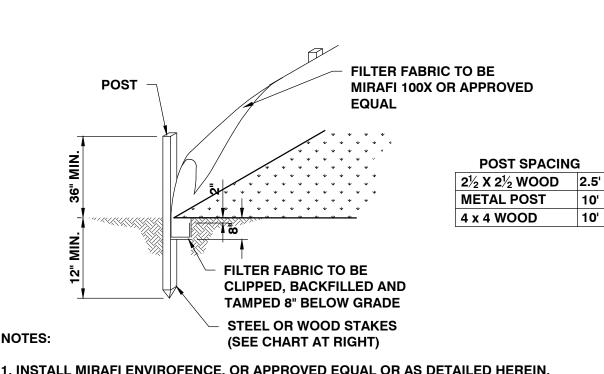
## to meet the operational design criteria for volumes, grades and geometry once final grading and stabilization has occurred. 16. Inspection, Maintenance, and Discharge Reporting Site inspections are required to ensure that all erosion prevention and sediment control practices

# are sufficient and functioning properly. Regular inspections and maintenance of practices will help to reduce costly repairs and minimize the risk to water quality from construction stormwater

Inspect the site at least once every 7 days and after every rainfall or snowmelt that results in

stormwater runoff. Perform maintenance to ensure that practices are functioning according to the specifications outlined in this handbook. In the event of a visibly turbid discharge from the construction site, you must take immediate action to inspect and maintain existing erosion prevention and sediment control practices. Additional erosion prevention and sediment control measures must be installed as necessary, including temporary stabilization, to minimize and prevent the discharge of sediment laden stormwater runoff. If after maintaining and supplementing BMPs, a discharge of visibly discolored stormwater from the construction site to surface waters continues, the permittee is required to notify DEC within 24 hours.

## While documentation of a routine inspection is not required, example inspection forms and forms for required discharge reporting are available at the Stormwater Program website. Permittees shall $\mathbf{\ddot{u}}$ E-004 review Construction General Permit 3-9020 for all discharge reporting requirements. A copy of the Low Risk Site Handbook shall be kept on-site. Daily inspections are required from October 15 through April 15.



1. INSTALL MIRAFI ENVIROFENCE, OR APPROVED EQUAL OR AS DETAILED HEREIN.

2. INSTALL SILT FENCES AT TOES OF ALL UNPROTECTED SLOPES AND AS PARALLEL TO CONTOURS AS POSSIBLE. THIS INCLUDES ALL FILLED OR UNPROTECTED SLOPES CREATED DURING CONSTRUCTION, NOT NECESSARILY REFLECTED ON THE FINAL PLANS. CURVE THE ENDS OF THE FENCE UP INTO THE SLOPE. REMOVE SEDIMENT WHEN ACCUMULATED TO HALF THE HEIGHT OF THE FENCE. SILT FENCES ARE TO BE MAINTAINED UNTIL SLOPES ARE STABILIZED.

3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.



**WOOD POST** 

SANDBAGS OR

**DIVERSION RIDGE** 

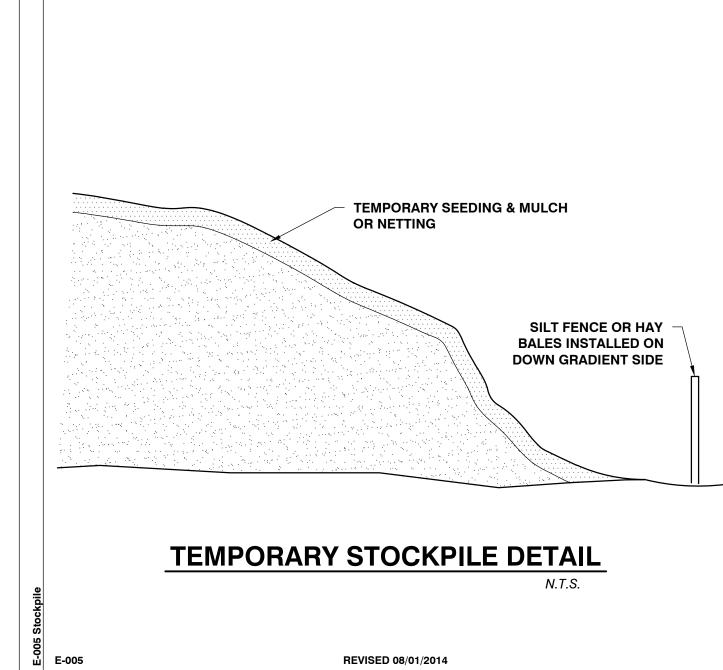
**CONTINUOUS BERM OF** 

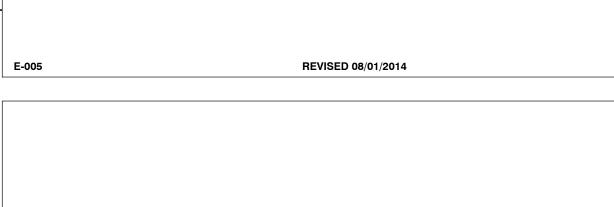
**EQUIVALENT HEIGHT** 

**SUPPLY WATER TO WASH** 

WHEELS IF NECESSARY

**REVISED 08/01/2014** 





**REVISED 08/01/2014** 

SPILLWAY

2"-3" (50-75mm) COURSE

AGGREGATE MIN. 8"

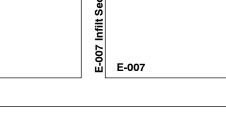
50' MIN.

**PLAN VIEW** 

**CONSTRUCTION FENCE DETAIL** 

**NATIVE MATERIAL** 

**EXISTING GRADE** 



**PLASTIC ORANGE** 

CONSTRUCTION FENCE

**USE SANDBAGS OR OTHER** 

APPROVED METHODS TO

**CHANNELIZE RUNOFF TO** 

**BASIN AS REQUIRED** 

**DIVERSION RIDGE REQUIRED** WHERE GRADE EXCEEDS 2%

# NOTES:

 THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.

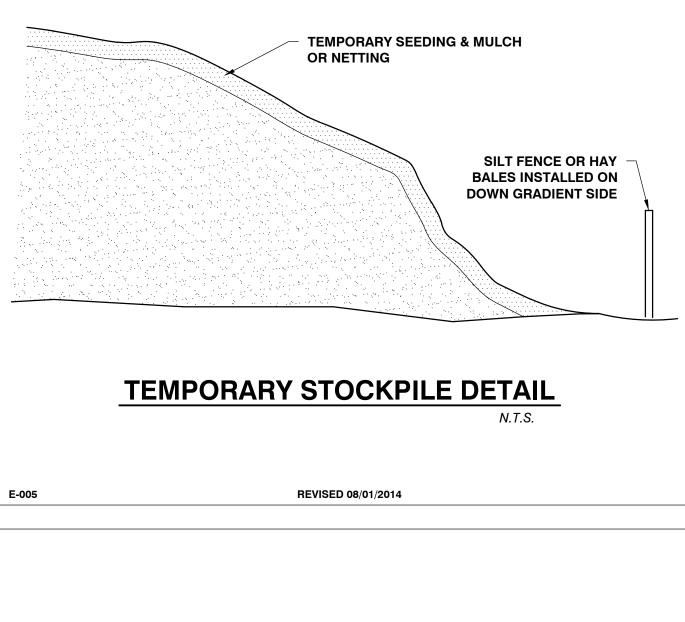
**SECTION A-A** 

**REVISED 08/01/2014** 

- 2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC
- 3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT

# STABILIZED CONSTRUCTION ENTRANCE

REVISED 08/01/2014



**POSTS** 1. SET POSTS AND 2. ATTACH SILT FENCE **EXCAVATE A 4"X8"** AND EXTEND IT TO **ANGLE 10°** TRENCH, SET POST THE TRENCH. SILT **UPSLOPE FOR** DOWNSLOPE. **FENCE STABILITY AND SELF CLEANING** 3. STAPLE THE SILT **FENCING TO THE** COMPACTED BACKFILL **BACKFILL TRENCH.** SILT FENCE CONSTRUCTION DETAIL

MULCH NOTE:

SITE ENGINEER:

DRAWN

MAB

CHECKED

DSM

APPROVED

DSM

CLIENT:

PROJECT:

CIVIL ENGINEERING ASSOCIATES, INC.

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10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403

Committee on

Temporary Shelter

P.O. Box 1616

Burlington, VT 05402

C.O.T.S.

Main Street Shelter

278 MAIN STREET

CITY of BURLINGTON, VT

MULCH FOR PURPOSES OTHER THAN HYDROSEEDING WILL BE CLEAN STRAW, FREE FROM WEEDS. HAY MULCH WILL NOT BE ALLOWED TO AVOID THE SPREAD OF

NON-NATIVE SPECIES SUCH AS WILD PARSNIP.

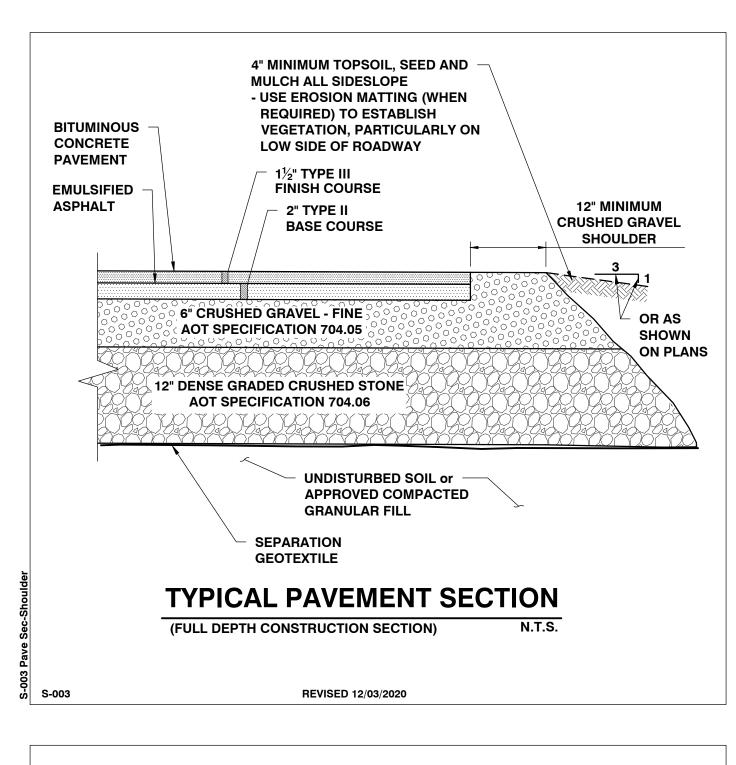
DATE	CHECKED	REVISION

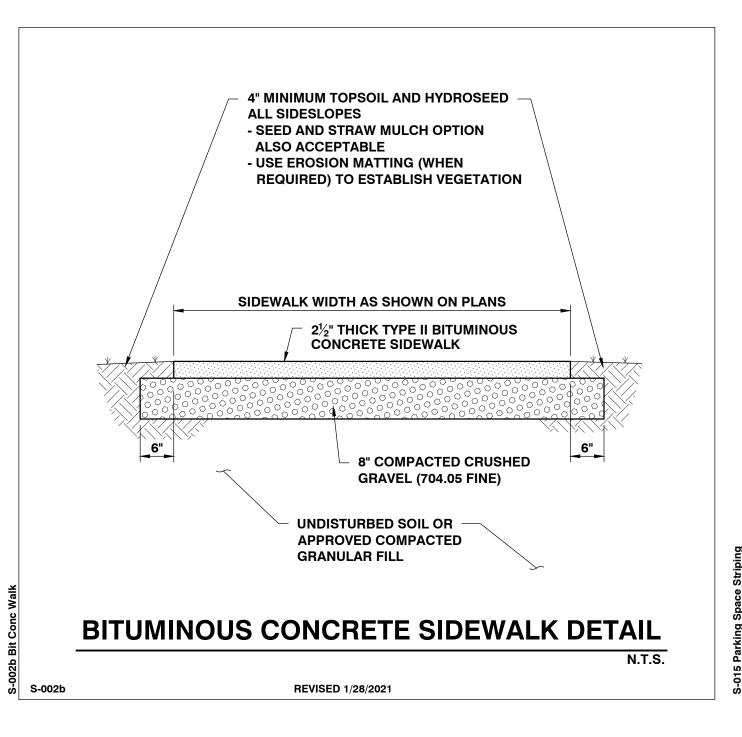
EPSC NOTES AND **DETAILS** 

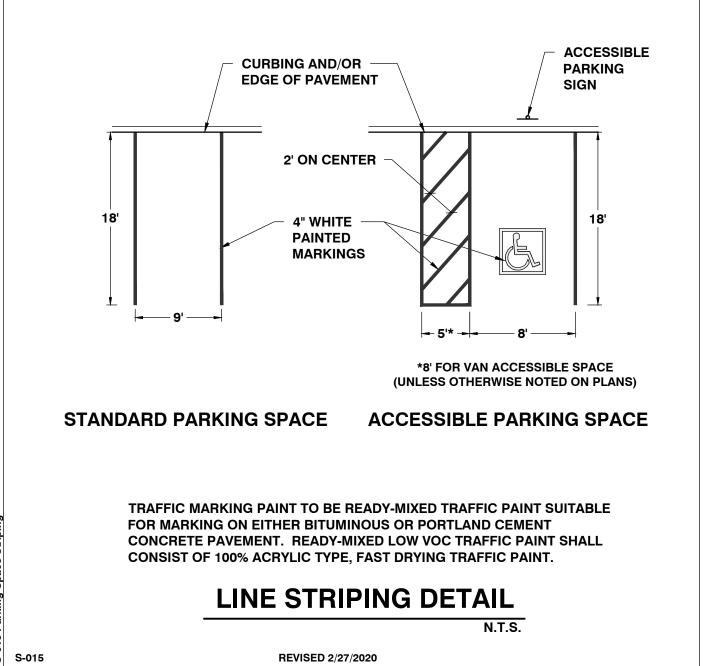
DRAWING NUMBER 09/30/2021 SCALE

PROJ. NO.

21177



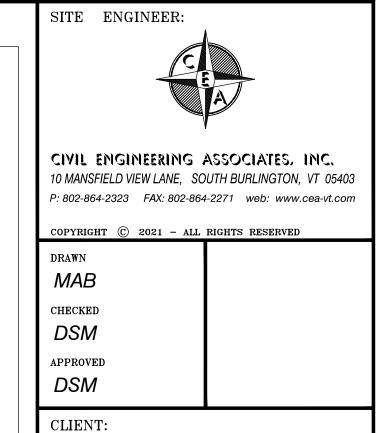






**REVISED 2/27/2020** 

ภี S-015a



Committee on Temporary Shelter

P.O. Box 1616 Burlington, VT 05402

PROJECT:

C.O.T.S. Main Street Shelter

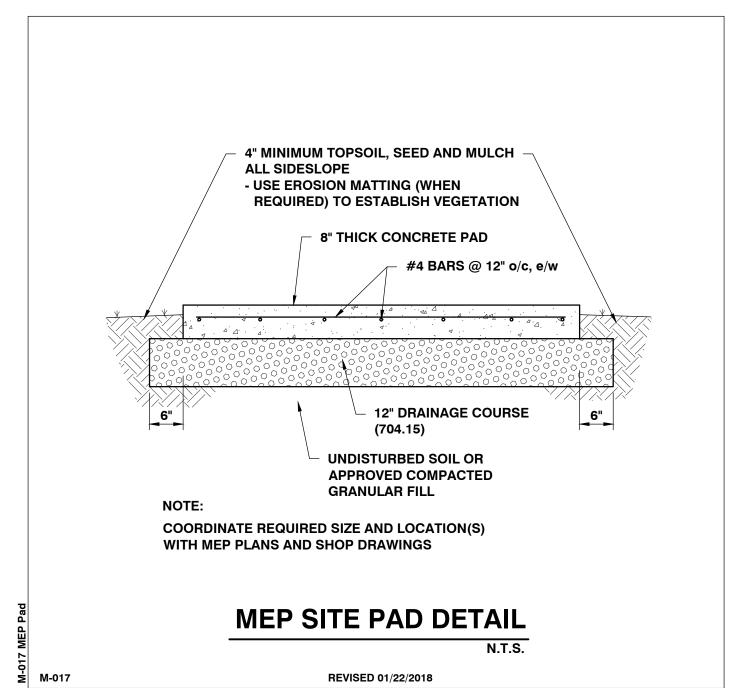
> 278 MAIN STREET CITY of BURLINGTON, VT

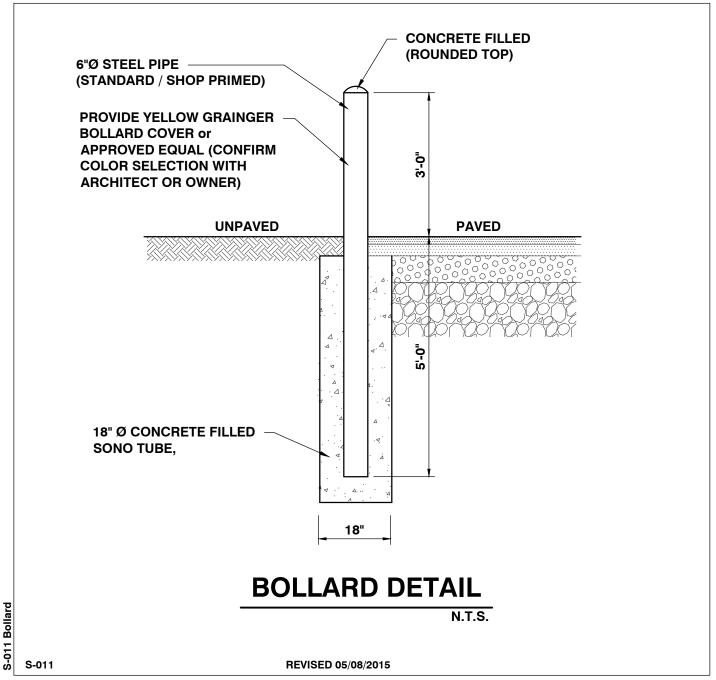
SITE DETAILS

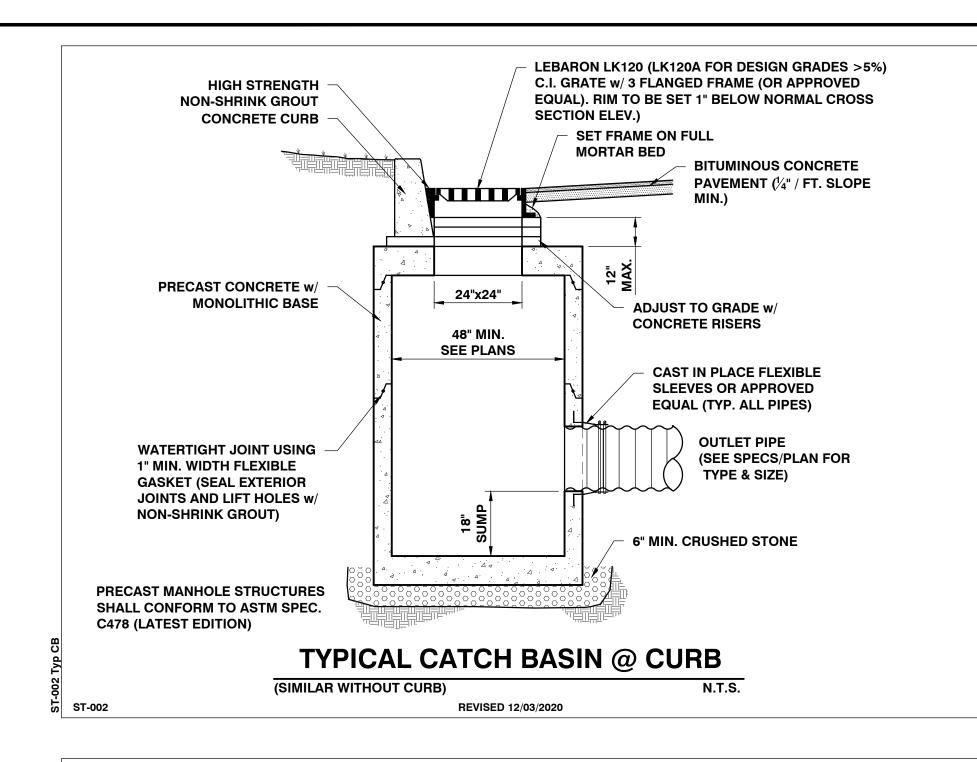
09/30/2021 SCALE AS SHOWN PROJ. NO.

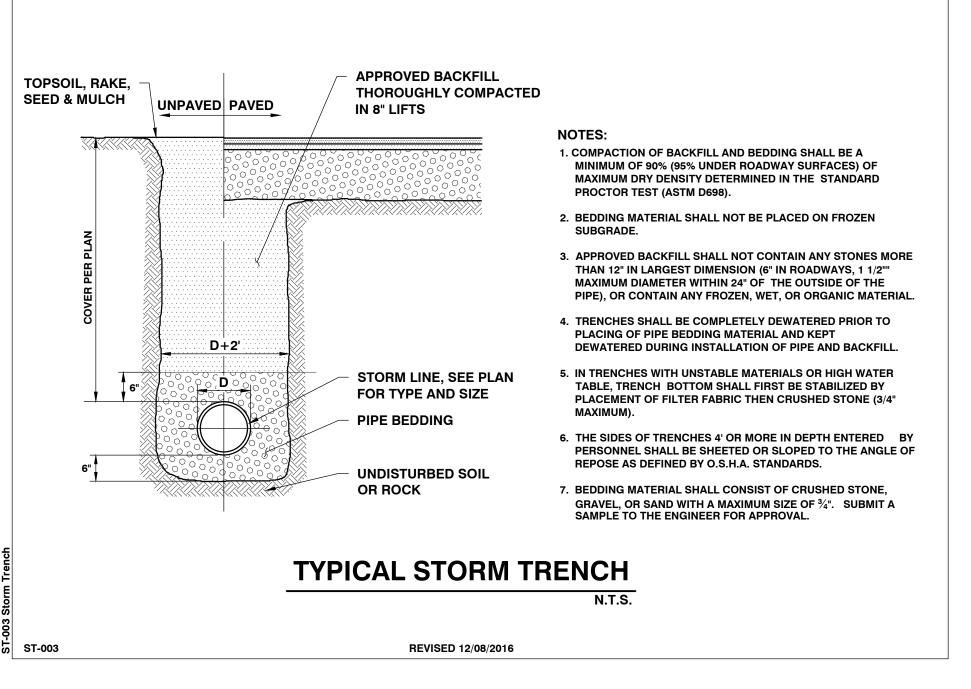
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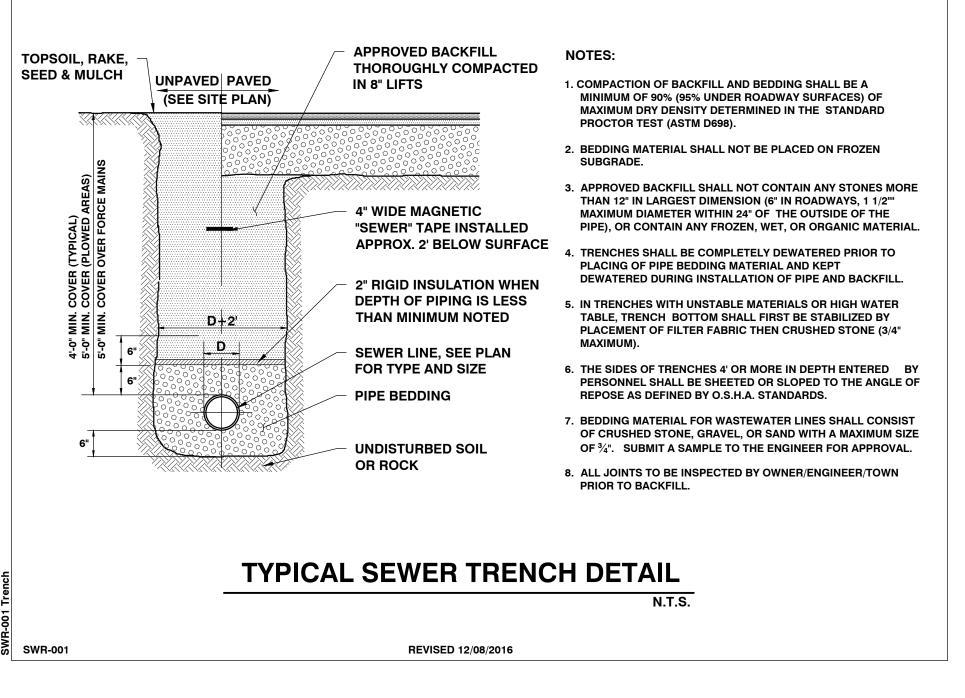
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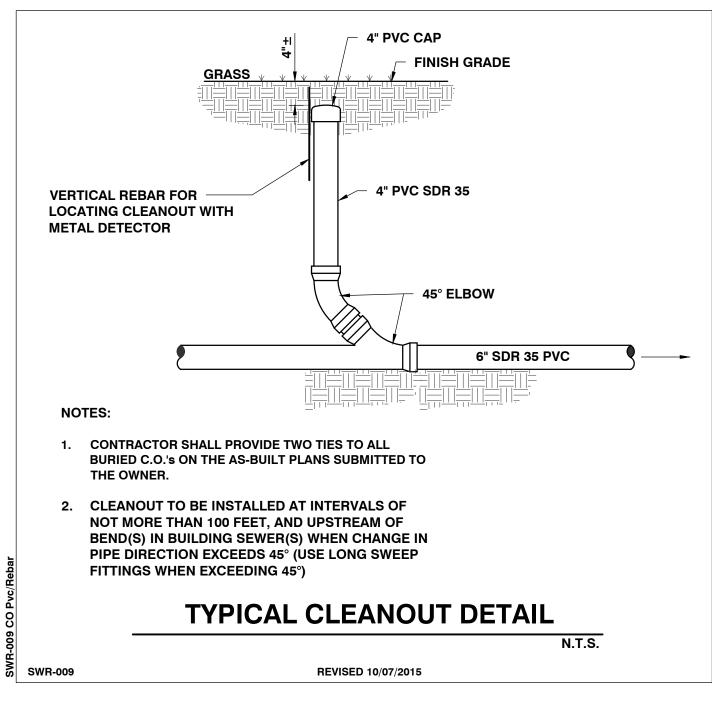


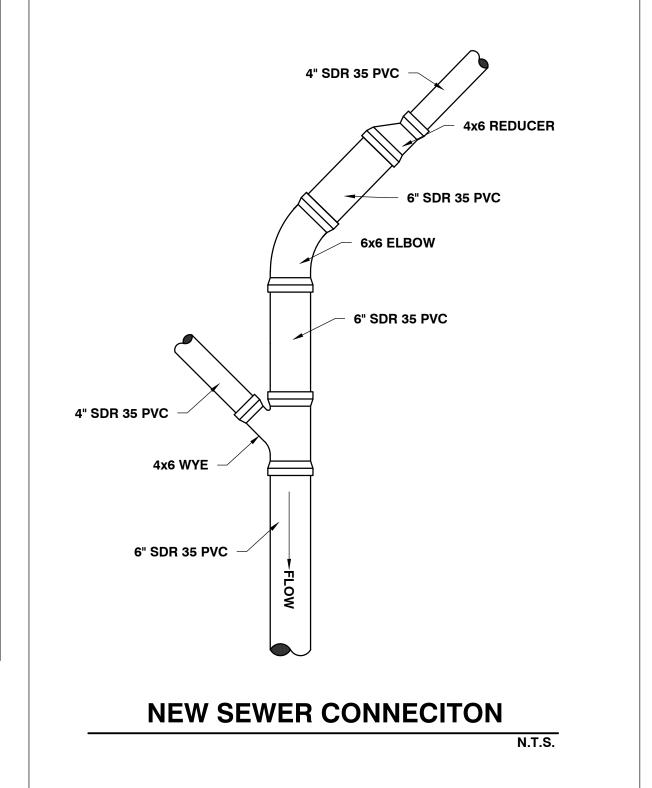












SITE ENGINEER:
CEA
CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 054
P: 802-864-2323 FAX: 802-864-2271 web: www.cea-vt.co
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DRAWN
MAB
CHECKED

CLIENT:

DSM

APPROVED

DSM

# Committee on Temporary Shelter

P.O. Box 1616 Burlington, VT 05402

PROJECT:

C.O.T.S.

Main Street Shelter

278 MAIN STREET CITY of BURLINGTON, VT

DATE CHECKED REVISION

# UTILITY DETAILS

DATE
09/30/2021
SCALE
AS SHOWN

PROJ. NO. **21177** 

C4.1

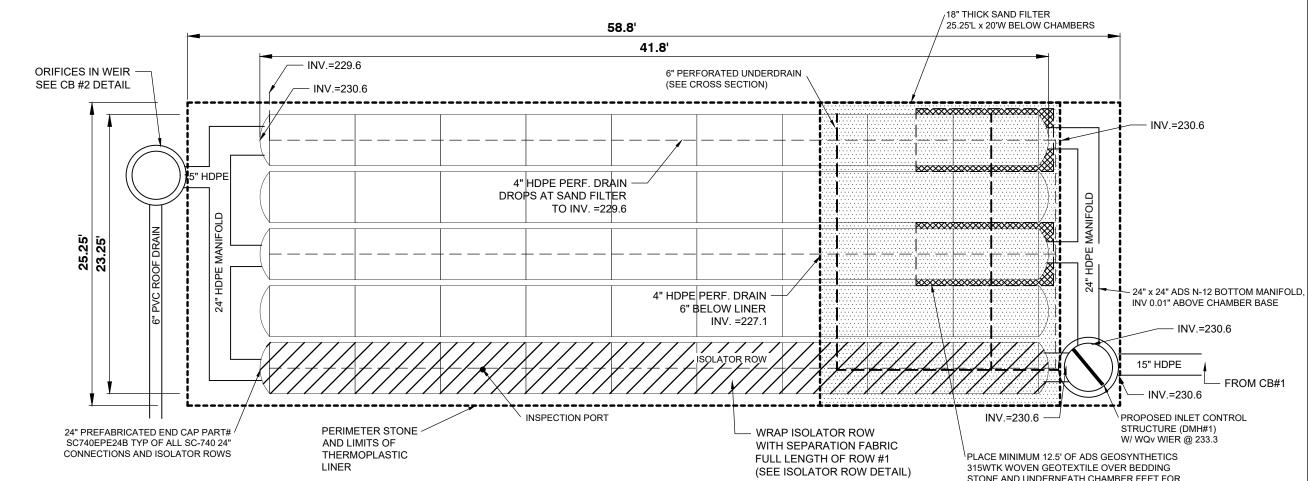
DRAWING NUMBER



**CONCEPTUAL LAYOUT** (10) STORMTECH SC-740 END CAPS INSTALLED WITH 6" COVER STONE, 6" BASE STONE, 40% STONE VOID INSTALLED SYSTEM VOLUME: 3633 CF (STORMTECH SYSTEM ONLY) INSTALLED SYSTEM VOLUME: 3861 CF (STORMTECH SYSTEM + SAND FILTER) AREA OF SYSTEM: 1,2,34 FT2 PERIMETER OF SYSTEM: 2,468 **FT** 

PROPOSED ELEVATIONS MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC): MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC) MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT) MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT): 234.6 TOP OF STONE: TOP OF CHAMBER 24" BOTTOM MANIFOLD INVERT 24" CONNECTION INVERT (ISOLATOR ROW): BOTTOM OF CHAMBER: 230.10 BOTTOM OF STONE:

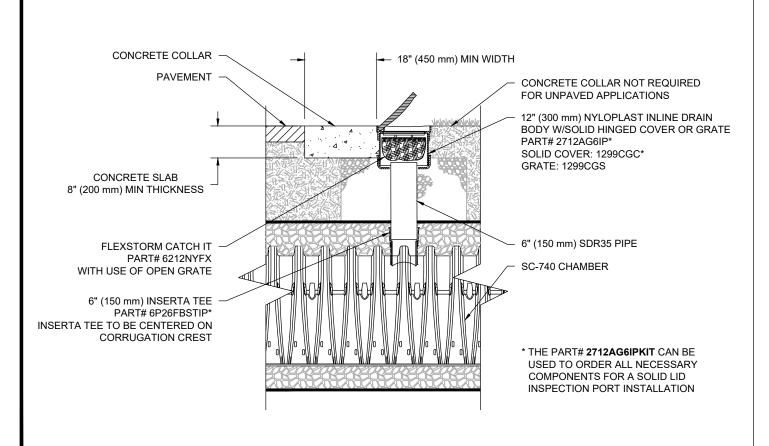
- SAND FILL PLACED UNDER STORMTECH CHAMBER SYSTEMS MUST BE PROPERLY SPECIFIED AND COMPACTED SUCH THAT THE STRUCTURAL REQUIREMENTS SPECIFIED IN THE STORMTECH DESIGN MANUAL ARE MET.
- STRUCTURAL BEDDING STONE AND SEPARATION GEOTEXTILE IS REQUIRED OVER SAND FILL AND MUST BE
- INSTALLED AS PER THE STORMTECH DESIGN MANUAL STORMTECH DOES NOT DESIGN SAND FILTER SYSTEMS AND CANNOT PROVIDED TECHNICAL INFORMATION ON HYDRAULIC PERFORMANCE, FILTER LONGEVITY, OR EFFECTIVENESS OF SAND FILTERS.



# STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET

# OPTIONAL INSPECTION PORT COVER ENTIRE ISOLATOR ROW WITH ADS SC-740 CHAMBER GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE 8' (2.4 m) MIN WIDE 24" MANIFOLD SC-740 END CAP W/OVERFLOW WEIR =231.0 24" (600 mm) HDPE ACCESS PIPE REQUIRED USE FACTORY PRE-FABRICATED END CAP PART #: SC740EPE24B SUMP DEPTH TBD BY 4" HDPE CAP -SITE DESIGN ENGINEER (24" [600 mm] MIN RECOMMENDED) TWO LAYERS OF ADS GEOSYNTHETICS 315WTK WOVEN -4" HDPE PERF. PIPE GEOTEXTILE BETWEEN FOUNDATION STONE AND CHAMBERS 5' (1.5 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS 18" SAND FILTER -12" DRAINAGE STONE — 6" PVC UNDERDRAIN -

# SC-740 ISOLATOR ROW DETAIL



SC-740 6" (150 mm) INSPECTION PORT DETAIL

# **INSPECTION & MAINTENANCE**

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT

A. INSPECTION PORTS (IF PRESENT) A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN

C. VACUUM STRUCTURE SUMP AS REQUIRED

- A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON
- MAINTENANCE LOG A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS
- A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3. B. ALL ISOLATOR ROWS
- B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
- B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
- ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

- 1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- 2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS

# STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-740 OR SC-310.
- 2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE
- 4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS'
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS"
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
- a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR
- A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
- c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.

# 8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY. IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

- 1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.
- STORMTECH RECOMMENDS 3 BACKFILL METHODS:
- BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE. BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- 4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- 5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- 6. MAINTAIN MINIMUM 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS 7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
- 8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE
- 9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

# NOTES FOR CONSTRUCTION EQUIPMENT

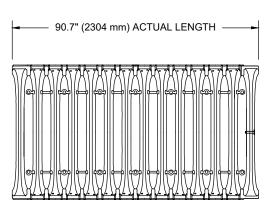
EQUIPMENT.

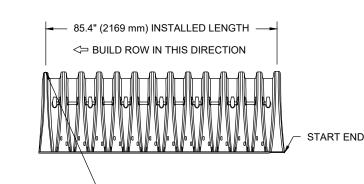
STONESHOOTER LOCATED OFF THE CHAMBER BED

- 1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
  - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS. NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE"
  - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION
- 3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT

AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION





SITE ENGINEER:

CHECKED

CLIENT:

PROJECT:

CIVIL ENGINEERING ASSOCIATES, INC.

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0 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403

Committee on

Temporary Shelter

P.O. Box 1616

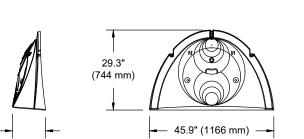
Burlington, VT 05402

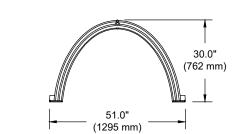
Main Street Shelter

278 MAIN STREET

CITY of BURLINGTON, VT

OVERLAP NEXT CHAMBER HERE (OVER SMALL CORRUGATION)



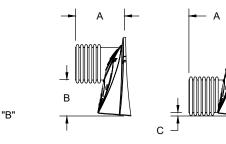


NOMINAL CHAMBER SPECIFICATIONS SIZE (W X H X INSTALLED LENGTH) 51.0" X 30.0" X 85.4" CHAMBER STORAGE 45.9 CUBIC FEET 74.9 CUBIC FEET MINIMUM INSTALLED STORAGE\* 75.0 lbs.

(1.30 m<sup>3</sup>) (2.12 m<sup>3</sup>)

(1295 mm X 762 mm X 2169 mm)

\*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B" PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PRE-CORED END CAPS END WITH PC								
PART #	STUB	<b>A</b>	В	С				
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)					
SC740EPE06B / SC740EPE06BPC	0 (130 11111)			0.5" (13 mm)				
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)					
SC740EPE08B / SC740EPE08BPC	8 (200 111111)			0.6" (15 mm)				
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)					
SC740EPE10B / SC740EPE10BPC	10 (230 11111)			0.7" (18 mm)				
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)					
SC740EPE12B / SC740EPE12BPC	12 (300 11111)			1.2" (30 mm)				
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)					
SC740EPE15B / SC740EPE15BPC	13 (3/3/11111)	10.4 (407 11111)		1.3" (33 mm)				
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)					
SC740EPE18B / SC740EPE18BPC	10 (430111111)	19.7 (300 11111)		1.6" (41 mm)				
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)		0.1" (3 mm)				

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT

\* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL. NOTE: ALL DIMENSIONS ARE NOMINAL

# SC-740 TECHNICAL SPECIFICATIONS

PLATE COMPACT OR ROLL TO ACHIEVE A FLAT

SURFACE.<sup>2,3</sup>

PAVEMENT LAYER (DESIGNED

BY SITE DESIGN ENGINEER)

\*TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR INCREASE COVER TO 24" (600 mm).

**OVERLAP SEVERAL** 

INCHES TO ANCHOR

(450 mm) MIN\*

NON-WOVEN -

ANGULAR

ANGULAR

GEOTEXTILE

6" (150 mm) MIN

(762 mm)

(450 mm)

12" (300 mm) MIN

12" MIN

(300 mm)

- SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS:
- ONCE LAYER 'D' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'E' UP TO THE FINISHED GRADE MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'D' OR 'E' AT THE SITE DESIGN ENGINEER'S DISCRETION.

OVERLAP ON TOP SEVERAL

THERMOPLASTIC

- INCHES TO ANCHOR

- EARTH

GEOTEXTILE DETAIL

STORMWATER **DETAILS** 

CHECKE

09/30/2021 AS SHOWN

SC-740 CROSS SECTION DETAIL

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS COMPACTION / DENSITY AASHTO MATERIAI DESCRIPTION CLASSIFICATIONS REQUIREMENT

(310 mm)

MATERIAL LOCATION FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS ANY SOIL/ROCK MATERIALS NATIVE SOILS OR PER PREPARE PER SITE DESIGN ENGINEER'S PLANS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT PAVED INSTALLATIONS MAY HAVE STRINGENT OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED SUBGRADE REQUIREMENTS. MATERIAL AND PREPARATION REQUIREMENTS. GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER BEGIN COMPACTIONS AFTER 12" (300 mm) OF AASHTO M1451 MATERIAL OVER THE CHAMBERS IS REACHED. A-1, A-2-4, A-3 GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX INITIAL FILL: FILL MATERIAL FOR LAYER 'C' LIFTS TO A MIN. 95% PROCTOR DENSITY FOR STARTS FROM THE TOP OF THE EMBEDMENT FINES OR PROCESSED AGGREGATE. WELL GRADED MATERIAL AND 95% RELATIVE STONE ('B' LAYER) TO 14" (355 mm) ABOVE THE MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU DENSITY FOR PROCESSED AGGREGATE AASHTO M431 MATERIALS, ROLLER GROSS VEHICLE WEIGHT OF THIS LAYER. 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89,

TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER. NOT TO EXCEED 12.000 lbs (53 kN), DYNAMIC 9, 10 FORCE NOT TO EXCEED 20,000 lbs (89 kN). **EMBEDMENT STONE: FILL SURROUNDING THE** AASHTO M431 CHAMBERS FROM THE FOUNDATION STONE ('A' CLEAN, CRUSHED, ANGULAR STONE NO COMPACTION REQUIRED. 3, 357, 4, 467, 5, 56, 57 LAYER) TO THE 'C' LAYER ABOVE. FOUNDATION STONE: FILL BELOW CHAMBERS AASHTO M431 PLATE COMPACT OR ROLL TO ACHIEVE A FLAT FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) CLEAN, CRUSHED, ANGULAR STONE 3, 357, 4, 467, 5, 56, 57 SURFACE.2,3 DRAINAGE SAND: PROVIDE 18" LAYER OF FILTER PLATE COMPACT OR ROLL TO ACHIEVE A FLAT FINE AGGREGATE CONCRETE SAND OR EQUAL ASTM C-33 SAND ABOVE SUBGRADE

UNDER DRAIN STONE: PROVIDE 12" LAYER OF CLEAN, CRUSHED, ANGULAR STONE 3, 357, 4, 467, 5, 56, 57 UNDERDRAIN STONE ABOVE SUBGRADE

THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN. CRUSHED. ANGULAR NO. 4 (AASHTO M43) STONE" STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS. ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE ALL AROUND CLEAN, CRUSHED, ANGULAR STONE IN C & D AND BETWEEN A & B LAYERS 

PERIMETER STONE (SEE NOTE 5) (CAN BE SLOPED OR VERTICAL) 12" (300 mm) MIN -

SC-740 END CAP

6" SLOTTED UNDER DRAIN -AS SHOWN ON SITE PLAN (HOLES DOWNWARD) CONNECT TO OUTLET CONTROL STRUCTURE 4" FROM SAND MEDIA, 2" FROM SUBGRADE

(3) 4" HDPE PERF. DRAINS BELOW LINER SUBGRADE SOILS DRAINAGE STONE ENVELOPE (SEE NOTE 4) PIPE INV. BELOW FILTER=166.5 THERMOPLASTIC LINER

THERMOPLASTIC LINER DETAIL

PROJ. NO. 21177

DRAWING NUMBER

REVISION